



**UNITED STATES DEPARTMENT OF COMMERCE**  
**Patent and Trademark Office**

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/289,137	04/08/99	BEEBE	D 1201.62521 <b>WC</b>

GREER BURNS AND CRAIN  
SUITE 8660 SEARS TOWER  
233 SOUTH WACKER DRIVE  
CHICAGO IL 60606

QM12/0602

EXAMINER

SZMAL, B

ART UNIT	PAPER NUMBER
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3736

DATE MAILED:

06/02/00 **7**

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

# Office Action Summary

Application No.

09/289,137

Applicant(s)

BEEBE ET AL.

Examiner

Brian Szmal

Art Unit

3736

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some \* c) ☐ None of the CERTIFIED copies of the priority documents have been:
1. ☐ received.
2. ☐ received in Application No. (Series Code / Serial Number) \_\_\_\_.
3. ☐ received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

## Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4,6.

- 18) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: \_\_\_\_\_.

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***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gordon in view of Dunlay et al.

Gordon discloses a method and apparatus for in vitro fertilization that has an embryo network having a biological medium for movement of the embryos, the network is formed in a wafer and the fluidic channel comprises a microchannel, a formation in a path defined by the communication channel for holding an embryo while maintaining flow, the formation comprises a constriction, the fluidic channel has a flat bottom, the fluidic channel has a V-shaped bottom, the embryo entrance comprises a hole penetrating a sealing member and maintaining the separation between the biological medium and the surrounding environment through surface tension, a removable cover, the embryo entrance comprises a well in fluid communication with the network, an embryo compartment and fluid flow channels that are smaller than the embryo diameter. See Column 2, lines 53-62; Column 4, lines 44-67; Column 5, lines 1-14; and Figure 3. Gordon however fails to disclose a scaled fluidic channel, and a biological medium source being introduced into the network without the use of an electrical pump.

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Dunlay et al discloses a system for cell-based screening that has a scaled fluidic channel, and a biological medium source being introduced into the network without the use of an electrical pump. See Column 5, lines 1-6; and Column 3, lines 36-62.

Since both disclose systems for containment of cells, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device and method of Gordon to include a scaled fluidic channel and a biological medium source, as per the teachings of Dunlay et al, since it would provide a means of in vitro fertilization and the transport of the embryo for transplantation. It also would have been obvious to have a capillary-induced fluid flow generate the turbulent flow that causes the movement and rotation of the embryo. It also would have been obvious to have a control test network separate from the rest of the network since it is common practice to have the control test separate from the rest of the device. It also would have been obvious to have a gravity controlled biological medium source since it is well known that gravity-fed systems have been used to supply biological fluids. It also would have been obvious to have a biological medium source for maintaining flow and for reversing fluid flow since capillary action can be induced to flow in any direction. It also would have been obvious to include biological rotation and slipping since those actions occur while the embryo is traveling through the fallopian tubes. It also would have been obvious to have the movement of the embryos occur without the assistance of an electrical stimulus since the movement of the embryo would occur from the turbulent flow incurred by the capillary action of the biological medium. It also would have been obvious to have a separate entrance and exit since having a

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single entrance and exit would increase the difficulty in removing the embryo for placement. It also would have been obvious to have the hole funnel shaped since funnels have been long used to direct fluids into containers. It also would have been obvious to have the hole in a midstream portion of the transport system since midstream access would allow for the embryo to be placed in the flow faster.

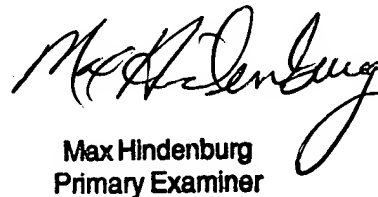
***Conclusion***

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The application cited describe devices and methods for dealing with cells. The Kricka et al patent discloses a device that is similar to the discloses invention.
4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Szmal whose telephone number is (703) 308-3737 and group fax number is (703) 308-0758.

BS



May 24, 2000



Max Hindenburg  
Primary Examiner